

NOVEMBER/DECEMBER 2025

**23UBC52 — INTERMEDIARY
METABOLISM**

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. List the role of high-energy phosphates.
2. Give examples of substrate-level phosphorylation.
3. Define glycogenesis.
4. What is the glyoxylate cycle?
5. Define ketogenesis.
6. Show the differences between saturated and unsaturated fatty acids.
7. What is transamination?
8. Define decarboxylation.
9. What is salvage pathway?
10. Compare and contrast the ribonucleotide and deoxyribonucleotide.



SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Explain the ADP/ATP cycle.

Or

- (b) Examine the role of uncouplers of oxidative phosphorylation.

12. (a) Outline the steps involved in the process of glycolysis.

Or

- (b) Interpret the steps involved in the Cori Cycle.

13. (a) Summarize the process of α oxidation.

Or

- (b) How is cholesterol degraded? Explain.

14. (a) What is the purpose of oxidative deamination? Give example.

Or

- (b) Infer the role of biogenic amines.

15. (a) Explain the degradation process of purines.

Or

- (b) Write a note on the conversion of ribonucleotide to deoxyribonucleotide.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Discuss the organization and functions of the electron transport chain.

17. Elaborate on the steps involved in the TCA cycle.

18. Summarize the process of β -oxidation of fatty acids.

19. Describe the steps involved in the urea cycle with its regulation.

20. How are the nucleotides synthesized from simple precursors? Outline the steps involved in De novo synthesis of purines.

